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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,314	03/22/2004	Mark Stanley Tenney	MST032204	2533

7590 03/04/2010  
Mr. Mark S. Tenney  
4313 Lawrence Street  
Alexandria, VA 22309

EXAMINER
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RANKINS, WILLIAM E

ART UNIT	PAPER NUMBER
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3684

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03/04/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/805,314	<b>Applicant(s)</b> TENNEY, MARK STANLEY	
	<b>Examiner</b> WILLIAM E. RANKINS	<b>Art Unit</b> 3696	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 January 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 1-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 25-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status of Claims***

Claims 25-39 are pending. Claims 1-24 are canceled. And claims 25-39 are new.

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-9 and 17-24 have been considered but are moot in view of the new ground(s) of rejection.

### ***Specification***

1. The amendment filed 01/06/2010 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Section 3-1 Steps in Regime Switching Economic Scenario Generation.

Applicant is required to cancel the new matter in the reply to this Office Action.

A review of the claims and updated search necessitated the rejections below.

***Claim Objections***

1. Claim 25 is objected to because of the following informalities: claim contains multiple errors in grammar such as the lack of punctuation which would make claims more easily understood. Additionally, acronyms should be spelled out where initially used in a group of claims with the acronym following for further use in the same group. Appropriate correction is required.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. Claims 25-27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are not directed to a process, machine, manufacture, or composition of matter as required by the statute.

2. Claims 29-31, 33-36 and 38-39 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

35 USC 101 requires that in order to be patentable the invention must be a "new and useful process, machine, manufacture, *or* composition of matter, *or* any new and

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useful improvement thereof" (emphasis added). Applicant's claims mentioned above are intended to embrace or overlap *two* different statutory classes of invention as set forth in 35 USC 101. A claim of this type is precluded by the express language of 35 USC 101 which is drafted so as to set forth the statutory classes of invention in the alternative only. See MPEP 2173.05(p) section II.

3. Claims 25-39 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims define nonstatutory processes if they consist solely of mathematical operations without some claimed practical application or simply manipulate abstract ideas (See MPEP 2106.0).

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 25-39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims are apparently supported by the

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amended specification filed 1/6/10. The examiner asserts that the amendments comprise new matter which was not described in the original disclosure.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 25, 28, 32, 35, 36 and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Antecedent basis

i. Claim 25:

- (1) Line 1 - ...the essential regime switching...
- (2) Line 2 - ...the economic scenario generator
- (3) Line 4 - ...the process parameters...the computer
- (4) Pg. 24, Line 1 - .....scenarios
- (5) Line 5 - ...the expected change
- (6) Line 6 - ...the random change...the deviates
- (7) Pg. 25, line 8 - ...the regime transition
- (8) Line 13 - ...the expected change vector
- (9) Pg. 26, line 8 - ...the parameter sets

ii. Claim 28

- (10) Line 3 - ...each time node
- (11) Line 4 - ...each scenario

- (12) Line 8 - ...the dmrp model
- (13) Line 9 - ...the value of
- (14) Line 10 - ...the next time node
- iii. Claim 32
  - (15) Line 3 - ...each time node
  - (16) Line 4 - ...each scenario
- iv. Claim 35
  - (17) Line 2 - ...the Green's function
- v. Claim 36
  - (18) Line 1 - ...the short term interest
  - (19) Line 2 - ...the an affine
- vi. Claim 37
  - (20) Line 3 - ...each time node
  - (21) Line 4 - ...each scenario
  - (22) Line 7 - ...the short term interest rate

3. Claims 29-31, 33-36 and 38-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. A single claim which claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. 112, second paragraph. Ex parte Lyell, (17 USPQ2d 1548). See MPEP

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2173.05(p) section II. The independent claims are directed to a system but the dependent claims are directed a method.

4. Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim claims a step of “substituting for the time node step” but does not appear to state what is the substitution.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 25-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bansal (Term structure of Interest Rates with Regime Shifts, Oct. 2002) in view of Official Notice.

As per claim 25;



Bansal discloses:

What is claimed is the essential regime switching esg improvement of the economic scenario generator where the economic scenario generator consists of entering data related to the process parameters into the computer using one of a plurality of a text editor, computer interface, disk, file, computer memory, external source, (or electronic means) state variable generation on the computer, which consists of the steps of one of a plurality of initializing needed memory and using previously initialized memory, iterating over scenarios using one of a plurality of computer memory and computer readable media wherein a scenario consists of a loop over time nodes, wherein at each time node the state variables are advanced by the steps of calculating the expected change vector in the state variables, calculating the random change by obtaining the deviates from one of a plurality of values stored in memory, values in a file, pseudo random generation with the processor of the computer, quasi random monte carlo generation with the processor of the computer, multiplying the vector of deviates by a matrix in computer memory, adding the expected and unexpected change vectors to get the total change vector, adding the total change vector to the old state vector to get the new state vector and

the improvement consists of

entering the parameters of the regime process (Pg 2002, Para. 4) through one of a plurality of of a text editor, computer interface, disk, file, computer memory, external source, (or electronic means) one of a plurality of specifying the initial regime and state variable, calculating with the computer processor the initial state variables given one of

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a plurality of an initial regime communicated to the computer memory, calculating both the initial regime and the initial state variables using the computer processor,

substituting for the time node step (Appendix A)

first determine a regime index by one of a plurality of use a regime index for this time node step previously calculated in memory based on the regime transition probability matrix and the previous regime index and random selection of the regime index in accordance with the regime transition probability matrix and the previous regime index (Pg. 2000, Para. 3 and Pg. 2034, Para. 2)

then the state variables are advanced by the steps of calculating the expected change vector in the state variables using the regime index to select the parameters in this calculation (Pg. 1999, Para's. 4 and 5),

calculating the random change by obtaining the deviates from one of a plurality of values stored in memory, values in a file, pseudo random generation with the processor of the computer, quasi random monte carlo generation with the processor of the computer, multiplying the vector of deviates by a matrix whose elements are determined by use of the regime index to select among the parameters used to calculate the matrix in computer memory, adding the expected and unexpected change vectors to get the total change vector, adding the total change vector to the old state vector to get the new state vector (See preamble of Jepson claim above)

wherein there are at least two distinct regimes in that the parameter sets differ by at least one parameter in the two regimes and at least one parameter relating to a variable in the essential regime switching economic

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scenario generator used to calculate a rate and one parameter relating to a variable used to calculate an equity variable have values that are different in at least two regimes (Pg. 1999, Note 1).

Bansal does not disclose the computer system used above however, the examiner takes Official Notice that general purpose computers are designed to be configured to perform calculations.

As per claim 26;

Bansal does not disclose:

The method of claim 25 further comprising where a general financial variable is calculated by the computer using the regime switching economic scenarios to calculate on the computer a variable used to calculate a financial payment (Pg. 1998, Para. 2).

As per claim 27;

Bansal does not disclose:

The method of claim 26 further comprising wherein said financial payment is used to execute a financial transaction.

However, the examiner asserts that claim 26 is intended use (MPP 2106 C).

Claim 28-39 are rejected under the same rationale used to reject claims 25-27.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William E. Rankins whose telephone number is 571-270-3465. The examiner can normally be reached on M-F 7:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hani Kazimi can be reached on 571-272-6745. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William E Rankins/  
Examiner, Art Unit 3696  
01/28/2010

/Hani M. Kazimi/  
Primary Examiner, Art Unit 3691